

**Notice of Allowability**

Application No.

10/786,230

Examiner

Ted Kim

Applicant(s)

HARTLEY, FRANK T.

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 07/03/2006.
2. ☒ The allowed claim(s) is/are 1, 2, 9, 10, 12-20, 33, 35-44, 49, 50.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Carl Kukkonen III on 9/21/2006.

The application has been amended as follows:

#### SPECIFICATION

- On page 1, lines 6, after "2003," -- now U.S. Pat. No. 6,828,552, -- has been inserted.

- On page 1, lines 1-2,

"This invention was made in part with Government support under contract NASA-1407 awarded by NASA. The Government has certain rights in this invention." has been deleted.

- On page 1, after line 10, a new paragraph has been inserted:

--This invention was made in part with Government support under contract NASA-1407 awarded by NASA. The Government has certain rights in this invention.--

- On page 10, line 6, "Figure 7 shows an illustration of the way gas" has been replaced by --Gas—. Note that Figure 7 had been canceled by applicant.

### **Claims**

The amendment to the claims of July 03, 2006 fails to list claim 11 in the listing of claims. Elsewhere on page 13, middle paragraph, it is clear that claim 11 was incorporated into claim 1 and the status should be considered as canceled. This was confirmed by the attorney.

- Claim 11 (canceled).
- Claim 12, line 1, "claim 11" has been replaced by -- claim 1 --.
- Claim 16, line 1, "claim 11" has been replaced by -- claim 1 --.
- Claim 17, line 1, "claim 11" has been replaced by -- claim 1 --.
- Claim 18, line 1, "claim 11" has been replaced by -- claim 1 --.
- Claim 19, line 1, "claim 11" has been replaced by -- claim 1 --.

### **REASONS FOR ALLOWANCE**

2. The following is an examiner's statement of reasons for allowance: the prior art of record do not fairly teach in permissible combination the claimed invention. Upon

further consideration, the claims are enabled for the claims presently in the application as all claims drawn to a bipolar thruster have been canceled. The claims are not drawn to a thruster per se, but an apparatus for use in a thruster or a method that produces thrust. There is no teaching of using the particular structure, incorporated into the independent claims on July 03, 2006, to produce thrust and keep the claimed dimension less than the mean free path of the molecules within the gas being ionized. For new claim 50, the "means for generating thrust" has been construed according to 112, 6<sup>th</sup> paragraph as having support from the specification on page 4, lines 4-page 5, line 15 and page 8, line 19 to page 9, lines 21 and not to the portion with the bipolar thruster. Accordingly the "means for generating thrust" has been deemed to include at least an accelerator grid, and the electrodes of claim 50 as being part of the ionizing membrane.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Ted Kim whose telephone number is 571-272-4829. The Examiner can be reached on regular business hours before 5:00 pm, Monday to Thursday and every other Friday.

The fax number for the organization where this application is assigned is 571-273-8300.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe, can be reached at 571-272-4444. Alternate inquiries to Technology Center 3700 can be made via 571-272-3700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). General inquiries can also be directed to the Patents Assistance Center whose telephone number is 800-786-9199. Furthermore, a variety of online resources are available at <http://www.uspto.gov/main/patents.htm>



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